SICK
Sensor Intelligence.

September 5th. 2024

Distribution to:
− File comment electronically by accessing the ECFS: https://www.fcc.gov/ecfs,proceeding 24-240
Federal Communications Commission
45 L Street, NE
Washington, D.C. 20554
− U.S. Senate Commerce Committee minority member North Carolina:
U.S. Senate Committee on Commerce, Science, and Transportation
Senator Ted Budd
Dirksen Senate Office Building 512
Washington, DC 20510
− U.S. House of Representatives Energy and Commerce Committee majority member North Carolina:
Energy & Commerce Committee
Rep. Richard Hudson
2112 Rayburn House Office Building
Washington, DC 20515

With Reference to: Petition for Rulemaking of NextNav Inc., ECFS INBOX-1.401 and Supplementary filings and WTB and OET Seek Comment on NextNav Petition for Rulemaking | Federal Communications Commission (fcc.gov)

SICK AG, as global acting company and entity in the US, is concerned with the NextNav petition to the FCC (ECFSA INBOX-1.401). Our company employs globally approx. 13 thousand people, several hundred in the United States of America. The NextNav petition would adversely impact our company's business which is focused on the of RAIN RFID products and solutions.

RAIN RFID (also known as passive UHF RFID) is a crucial technology that enhances the resilience and efficiency of America’s supply chains. As described in the Executive Order on Resilient Supply Chains of June 2024, the United States needs resilient, diverse, and secure supply chains to ensure our economic prosperity, public health, and national security. Resilient supply chains include greater domestic production; a diverse and agile supplier base; a reliable transportation system; secure critical infrastructure; adequate stockpiles; reliable food systems; and a world-class, globally competitive American manufacturing base.

RAIN RFID systems usage of the 860 to 960 MHz frequency band is regulated by a single global standard called GS1 UHF EPC Gen2 (which was adopted by the International Standards Organization as ISO/IEC18000-63). Over 200 billion RAIN RFID tag chips have shipped to date, with approximately 40% of those deployed in the US. As an “internet of things” this means 80 billion items have been tagged with RAIN RFID in the US, and the data from these tags has served to increase global supply chain resilience through digital transformation in sectors including retail, logistics, healthcare, pharmaceuticals, automotive, aviation, smart manufacturing, food safety, energy, smart cities and others. FCC specifically allowed RAIN RFID operation in the ISM band and the industry relied on that policy and has tagged this billions of RAIN RFID tags into primarily Fortune 500 enterprises based on that policy.3 The RAIN RFID industry is widely deployed in many critical applications across a broad range of industries.If the NextNav Inc. Petition for

Rulemaking is awarded, this will have profound negative impacts on RAIN RFID operations in the USA, destroying supply chain resilience. RAIN RFID benefits which would be destroyed by the NextNav Petition

Retail:
Approximately 50% of RAIN RFID tags are deployed in retail – equating to >40B tagged items in the US alone to date. This sector is projected to grow at over 19% CAGR. The Germany and European actions in regards “The Act on Corporate Due Diligence Obligations in Supply Chains “
https://www.bafa.de/DE/Lieferketten/Multilinguales_Angebot/multilinguales_angebot_node.html
will also drive the use of RAIN technology as global supply chain is affected. RAIN will help to:
− Enable “real time” accurate inventory & greater control over stock
− Increase productivity of the workforce by streamlining the inventory process
− Enable digital commerce business models
− Improve profitability by ensuring every item is sold
− Accurately manage the supply chain
− Detect and prevent losses and waste

Logistics:
3.4B RAIN RFID tag units were deployed globally in Logistics in 2023. This is projected to grow at a CAGR of 32%. As of 2024, the total U.S. business logistics costs are estimated to be $2.3 trillion. This sector includes transportation, warehousing, and inventory management, playing a critical role in supporting the economy by ensuring efficient movement and storage of goods. The logistics industry's impact on GDP underscores its importance in facilitating trade and commerce, ultimately driving economic growth.
The RAIN RFID benefits accruing to the Logistics sector include:
− Route optimization to increase efficiency
− Improving warehouse storage utilization capacity and reducing dwell time in logistics environments
− Real time inventory across the entire supply chain
− Reduction of lost items
− “right first time” delivery
− Automating manual scanning (UPS, for example, is transitioning to a RAIN RFID-enabled “sensing”
network as it looks to eliminate 130 million daily “scans” 9.)
− Proof of correct delivery
− Improved customer engagement and satisfaction
− Reducing logistics organization’s carbon footprints
− Condition-based monitoring (e.g. temperature monitoring)

Baggage Handling:
IATA Resolution 74310 in support of RAIN RFID marking of baggage is not a mandate, but it does.
but it does lead to increased tracking of events using IATA RP1740c. For many airlines, their RAIN RFID investments are closely linked to customer loyalty and satisfaction goals to provide them with a personalized travel experience. With additional reading points, transport routes can be monitored, and tampering detected. In conjunction with existing technologies, reading, and sorting rates can be increased, preventing late or misdirected baggage and reducing subsequent costs and CO2 emissions.

Tire Tagging:

The tire tagging industry is evolving to embedded RAIN RFID solutions to support a broader scope of applications, including supporting circular economy and sustainability requirements. Key factors driving tire tagging efforts include:
− enabling automatic proof of delivery, improving operational efficiencies, facilitating sorting of tires by age and supporting item level traceability.
− supporting re-treading which results in 3 times overall resource efficiency and 4 times fewer tires - with each retreaded tire saving 30kg rubber, 20kg steel and 60kg CO2.

Automotive
RAIN RFID is used in the vehicle manufacturing through the hole production process, to track the car, manage the eKANAN process, synchronize global supply chain processes. Critical components are tracked with RAIN RFID as well, therefore critical issues (e.g. problems with airbag charges) can be better managed.

Request to reject the NextNav Rulemaking petition

If the petition to realign the 902-928 MHz frequency band is implemented as proposed, it will have profoundly negative impact on our business
- our business in the United States,
- the demand for products from our manufacturing facility,

We respectfully request that the NextNav Rulemaking Petition be denied as it will have a significant negative impact on the use of RAIN RFID and supply chain stability in various sectors, as well as the adverse impact on SICK, its customers and many other companies in the RFID industry.

Sincerely,

Craig Kendall
Director, Engineering
SICK PCA

https://www.whitehouse.gov/briefing-room/statements-releases/2024/06/14/executive-order-on-white-house-council-onsupply-chain-resilience/
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